First, consider the lookup helper in the handlebars Demo. If you look at the server.js file and lookup.handlebars file you will see the following:

server.js > app.get('/') callback > source4

```
app.get('/lookup', (req, res)=>{
    res.render('lookup',
    {title: 'lookup helper',
    user: {
        username: 'LeeSullivan',
        age: 20,
        email: 'hsullivan@stetson.edu'
    },
    });
})
```

views > lookup.handlebars > ...

```
<h2>Handlebars Lookup Helper</h2>

<p>{{lookup user 'username'}}</p>

```

In the server.js file, a user object is created with the fields username, age, and email. The lookup helper returns the object (user) at the index field (username).

Vulnerable Code

Handlebars 3.0.5

Here the code is vulnerable because the lookup function does not properly validate templates.

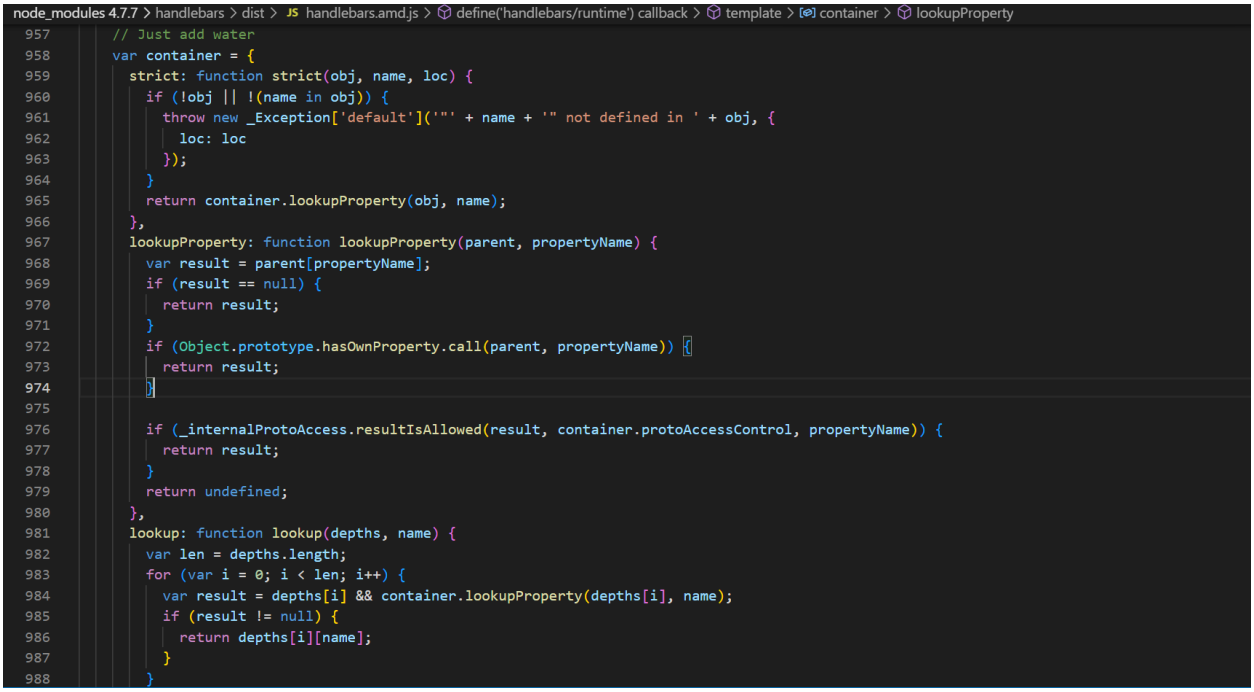
```
        instance.registerHelper('lookup', function (obj, field) {
          return obj && obj[field];
        });
    }
```

Secure Code

Handlebars 4.7.7

```
define('handlebars/helpers/lookup',['exports', 'module'], function (exports, module) {
  'use strict';

  module.exports = function (instance) {
    instance.registerHelper('lookup', function (obj, field, options) {
      if (!obj) {
        // Note for 5.0: Change to "obj == null" in 5.0
        return obj;
      }
      return options.lookupProperty(obj, field);
    });
  };
});
```



The following link explains how the code was fixed.

[fix: use String(field) in lookup when checking for "constructor" · handlebars-lang/handlebars.js@d541378 · GitHub]